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ABSTRACT

This paper abstracts more than thirty sources selected for their usefulness in providing contexts and specific illustrations for understanding observation and analysis. Some Reasons for Classroom Observation and Analysis, includes seven selections that deal with factors related to the rationale for observing and analyzing classroom behavior. Perspectives for Viewing the Process of Instruction, includes selections by Carl R. Rogers, Ronald T. Hyman, and others. The Components of Instruction Amenable to Analysis, contains selections on aspects of instruction that are analyzable and controllable: strategies, questioning, objectives, and classroom management. Classroom Observation Systems, has three sections: 1) general background papers, reviews of systems, and instruments designed to gather data on cognitive and affective behaviors of teachers and students; 2) summaries of instruments amenable to modification by the classroom teacher for use in observing and analyzing interaction and outcomes on the cognitive and affective dimensions; and, 3) summaries of observations systems focusing on cognitive dimensions usable by one observer in a live situation. Feedback and Observation and Analysis, covers selections that deal with the final step in teaching improvement. Twenty-two additional sources are listed in a bibliography. (Author/DJB)

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CLASSROOM OBSERVATION AND ANALYSIS:

SOURCES FOR SOCIAL STUDIES TEACHERS

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Classroom Observation and Analysis: Sources for Social Studies Teachers

Introduction

Teachers concerned about improving the effectiveness of instruction can now use classroom observation and analysis to achieve their goals. This paper abstracts more than 30 sources selected for their usefulness in providing contexts and specific illustrations for understanding observation and analysis. They offer the teacher powerful tools for the improvement of instruction.

Most of the sources cited originated with research efforts to discover what does go on in classrooms. Many of these are adaptable to classroom use for the improvement of teaching, and have been so adapted. It is now entirely possible for the teacher himself to use these techniques to obtain a clearer picture of what goes on in his own classroom and then do something about it if he so desires. Most teachers need more objective perspectives on their classrooms than they perceive in the process of teaching. They need to understand the components of complex teaching activities. They need to find their characteristic patterns of interaction: teacher-student, student-teacher, and student-student. Only then can they plan the changes in their own behavior toward more effective teaching.

While observation and anlysis of classroom instruction is useful to all teachers, it has special significance for social studies/social science teachers. For one thing, education is a social process, and social science disciplines, especially psychology, anthropology, and sociology, contribute heavily to the analytical techniques. Perhaps

more important is the impact of the classroom processes on the socialization of the child.

Social studies classrooms deal with public and controversial issues, encourage reflective thinking about social problems, and focus self-consciously on values and value formation. It is crucial that the processes of the classroom be congruent with the skills being taught. For example, the process of required repetition of majority values (indoctrination) interferes with the development of valuing skills. The process of memorizing and reciting events in the lives of great leaders (as in some history instruction) is a much weaker way of developing leadership skills than the practice of leadership in school and classroom activities.

In so far as social studies teachers are teaching about behavior, their own behavior and the students' behavior which they encourage or discourage, become models for the students; models more powerful than the norms or examples read about in books.

Since the results social studies teachers want to achieve are so directly involved with the social process in their classrooms, they need as accurate mirrors of their behavior, and as objective pictures of what goes on in their classrooms, as they can possibly get. This paper presents some of the important methods developed to date, ways of observing and analyzing classrooms in action, and ways of using such information to improve instruction.

Over the last twenty years an increasing number of educational researchers have focused their efforts on the examination of instruction as it occurs in the classroom. More than one hundred instruments for the observation of classroom instruction have been developed. Accompanying

this research, there has been concern for more carefully specifying elements of the teaching process. Developments such as microteaching and the specification of behavioral objectives suggest ways that classroom teaching may be more precisely analyzed. A third direction noted in the literature of educational research about what goes on in classrooms is the attempt to conceptualize in broad terms the teaching-learning process, and, in some cases, to propose alternate conceptualizations to the typical classroom. Recently, the use of anthropological methods in the study of schooling has led not only to careful observation of classroom processes, but also the linking of these processes to the school building, the school district, the constituency of a district, and to broader social and cultural contexts.

The literature relevant to classroom observation and analysis has not been readily available to teachers in the past, nor has it been much sought after by teachers. The continuing publication in informal format of research results will help the first problem. Acquainting preservice and inservice teachers with some entry points to the literature may help the second.

The following abstracts are arranged, generally, to meet those needs for knowledge. The annotations are relatively long to do justice to the topic and the source. The sections are: Some reasons for Classroom Observation and Analysis; Perspectives for Viewing the Process of Instruction; The Components of Instruction Amenable to Analysis; Classroom Observation Systems; and Feedback from Observation and Analysis. Several other sources relevant to the overall subject are included without annotation in a supplementary bibliography.

SOME REASONS FOR CLASSROOM OBSERVATION AND ANALYSIS

The seven selections annotated in this section contribute to an understanding of the rationale for observing and analyzing classroom behavior. A variety of factors are considered.

Louis Smith and William Geoffrey used observations by the teacher and by the psychologist to develop several theoretical perspectives for interpreting classroom behavior. Their book offers teachers insight into the complex process of instruction, and it opens to consideration alternatives for working with students. Philip Jackson's book also suggests the need to look at teaching from various viewpoints in order to understand and deal with its complexity. The tragedy of failure of young persons in our schools and the hope of preventing some of it are some reasons for observing and analyzing what is happening in the classroom, strongly put forth in How Children Fail.

Carl Stenbing suggests there may be easier ways to improve instruction than by increasing one's ability to analyze instruction, but he does point to the need for finding measures other than conventional criteria for assessing pupil performance. The authors of Teachers for the Real World add their voices to others who view observation and analysis as conceptual tools basic to the professional performance of teachers. In their view, observing and analyzing the classroom makes teachers more insightful, more flexible, and more aware of alternatives available to them in teaching. Better decision making by the teacher is also an organizing theme for the Michigan State collection of research papers and reviews on

the subject of classroom analysis. These works can apply to teachers who are the evaluators in their own classroom and who have reason to observe and gather data on behaviors related to outcomes. The place of observation in an evaluation plan is explained by Robert Stake in the introduction to AERA Monograph Series on Curriculum Evaluation: Classroom Observation, Vol. 6.

Smith, Louis M. and Geoffrey, William. The Complexities of an Urban Classroom. New York: Holt, Rinehart and Winston, 1968.

Every day for a semester an educational psychologist, Louis M. Smith, observed the classroom of a teacher, William Goeffrey. Both kept daily field notes. It became possible, therefore, to view the classroom from two perspectives: the teacher who had an inside look at what was occurring, and the investigator who had an outsider's view of what was happening. The daily observations were guided by two purposes. One was to describe carefully the real world of an urban classroom, and a second was "to back away and conceptualize this 'real world' in broader, more abstract terms that would be applicable to any classroom." The result is a case study of a classroom, probably the most detailed in existence, and the development of several theoretical perspectives for interpreting the classroom behavior.

One chapter of interest to practitioners is on classroom processes. A topic covered in that chapter is classroom control. Out of Geoffrey's experience the authors abstracted two processes: establishing a belief system and shifting beliefs (what exists) into norms (what ought to exist). As Geoffrey made class rules clear, he was dealing with belief systems, and as he tried to commit the children to these beliefs, he was building a normative structure. Out of this analysis also comes several concepts that are useful descriptions of teacher behavior designed to achieve control. Other topics included in the chapter are pupil roles, individual roles, and sub-group interaction structure.

Chapter four proposes that the teacher be viewed from the model of decision-maker. Elements of this model are developed in detail, and a number of concepts are presented that can be used to analyze teaching in the context of the decision-making model. Illustrative concepts are: the provisional try, the ringmaster, continuity, sequential smoothness, teaching-in-motion, skirmishing, and banter.

Perhaps the greatest value of this book to practitioners is that it explores the life of the classroom from the teacher's point of view. A teacher, especially an experienced teacher, can hold up the description of teaching and conceptualizations based on that description against his own classroom experience. Such process should give him insight into his own behavior and possibly suggest new approaches to working with children.

Jackson, Philip W. Life in Classrooms. New York: Holt, Rinehart and Winston, 1968.

The book is, in the words of the author, a melange stylistically. This characteristic represents both a virtue and a fault of the book. It has no framework to hold it together; the book is essentially five essays, each of which can stand by itself. Yet the mixture of perspectives also means that teaching is interpreted from a number of viewpoints. There are chapters on the daily grind, in which the classroom is viewed as a social system; on students' feelings about school; involvement and withdrawal in the classroom; teachers' views of teaching; and the need for new perspectives. The author justifies the varied approaches he used in studying teaching on the basis that classroom life is "too complex an affair to be viewed or talked about from any single perspective." The content of the various chapters is well summarized in a detailed book review by Maurice Belanger: Harvard Educational Review, 38 (Fall, 1968), 786-89.

Rather than duplicate Belanger's summary of the book, this annotation will speculate on the value of various chapters to classroom teachers. At least two of the chapters should be of interest to the teacher. Chapter one, the daily grind, uses the concepts crowds, praise, and power to analyze events that occur in classrooms. The result is a number of insights that seem obvious -- after they are read. In a way, the author's analysis is more devastating than that of any of the romantic critics because it lacks the moral indignation that makes one skeptical of the conclusions of the romantic critics.

As part of his two year observation of classrooms, the author conducted interviews with 50 teachers who were seen by administrators as being superior. Chapter four presents the results of the interviews, and again the author formulates a number of insights concerning teachers' perceptions of teaching. The interpretations derived from the interviews should be interesting to a classroom teacher and are must reading for anyone responsible for the preservice or inservice education of teachers.

10.

Holt, John. How Children Fail. New York: Pitman Publishing, 1964.

As the title suggests, the main theme of the book is an exploration of why children fail in school. The author is concerned not only about the ones who visibly fail, i.e., dropout, but the even larger number who fail to develop more than a tiny part of the tremendous capacity for learning, understanding, and creating with which they were born and of which they made full use during the first two or three years of their lives.

The author feels children fail because they are afraid, bored, and confused. These themes are developed through a series of memos based on his own teaching and the observation of a colleague. He chose to organize the memos under four topics: strategy, fear and failure, real learning, and how schools fail.

In many ways this is a book that is difficult for teachers to read. Underlying the author's specific interpretations of failure is a general belief that most of what is wrong in current education resides in teachers and school structures. Teachers, for example, focus so much on the right answer that they are unable to hear or understand what children are really saying and thinking. The author believes that schools place too much pressure on students. If only students were freed of teacher- and school-imposed contraints, the child would literally be able to educate himself. According to the author, the child should be allowed to work through problems in his own way and at his own pace, and the task should not be imposed by the teacher. Success at a task should be so obvious to a child that he does not have to be told by a teacher that he has done it well.

The teacher cannot help but wonder what his role is to be in the new order of schooling. If that concern can be suspended, the book can give the teacher insight into children's views of the present order.

Stenbing, Carl M. "Some Role Conflicts as Seen by a High School Teacher." Human Organization. Vol. 27 (Spring 1968) pp. 41-44.

High school teachers experience certain role conflicts because they lack access to the conventional monetary reward and prestige system of our society. Their self-esteem and recognition come from an exaggerated dependence on the performance of their students as measured by such tangibles as grades and number of students choosing their courses. The "good" teacher, therefore, is the one whose students excel scholastically, and the "good" student is the one who conforms to the rules, accepts the judgment of his teacher, and produces what is expected of him. One problem is that there are not enough good students to go around, and what good students there are often concentrate their efforts in high prestige subjects. Both of these factors lead to conflicts among the teaching staff. The nature of these conflicts is explored in the article.

The dependence of teacher prestige on student performance as measured by conventional criteria also leads to a valuing of the status quo. This result, mentioned briefly by the author, is of special significance to practitioners desiring to learn ways of analyzing classroom instruction in order to improve it. Improvement of instruction might be obtained much easier by changing conventional scholastic criteria (grades, state-wide tests, admissions to prestige colleges, etc.) than by increasing one's ability to analyze instruction.

Smith, B. Othanel, in collaboration with Saul B. Cohen and Arthur Pearl. Teachers for the Real World. Chapter Five. Washington, D.C.: American Association of Colleges for Teacher Education, 1969.

Teachers for the Real World outlines a comprehensive basic program of teacher education. In the first chapters of the book Professor Smith deals with deprivation, racism, and teacher education; the teacher as a dropout; multiple teacher roles and preparation of aides; and the theoretical preparation of the teacher. Chapter Five is concerned with how to develop the teacher's conceptual system. It is the thesis of the authors that a conceptual scheme can best be mastered by studying actual behavioral situations and interpreting them with the concepts which are to be learned and subsequently used in teaching. It is in this chapter that protocol materials or behavioral situations are discussed at length. It is the conviction of the authors that prospective teachers, "by being involved repeatedly in the process of analyzing and interpreting behaviors and situations, will learn to interpret quickly and thoroughly the events and episodes that happen" as they teach.

Observation systems are seen as conceptual tools basic to program development. The research that has gone into the development of observation systems has contributed a number of categories that can be used in identifying behavioral situations and to select relevant theoretical knowledge. Smith points out that we yet do not know the consequences of using any of these schemes, i.e., the behaviors identified by the various observation systems have not been related to measures

of student achievement. He suggests ways in which the use of observation systems may make teachers more insightful, more flexible, and more aware of the greater number of choices available to them in teaching.

Teachers for the Real World puts classroom observation and analysis into the context of a whole new program for the improvement of teacher education and stresses it as a key element thereof.

15.

Henderson, Judith, and Ward, Ted, eds. Research on Instruction - Reviews and Bibliography. Lansing, Michigan: Michigan State University, School of Teacher Education, Learning Systems Institute, no date.

This is a manual of reviews and critiques on instructional analysis collected in loose-leaf notebook form and prepared particularly for the teacher education faculty at Michigan State University. The volume is divided into the following five sections, each of which contain papers by the named researchers or reviews of their work:

Interaction Analysis

Verbal Interaction - Hughes, Flanders

Cognitive Communication - Taba, Aschner

Linguistic Analysis - Bellack, Smith

Analysis of Problem Solving Skills - Turner, Fattu, Popham, Harootunian, and Kounin

Lesson Analysis - Herbert

Analyses from Theory - Ryans, Bruner, Joyce, and Maccia

The papers examine instructional interaction and various conceptual frames of reference for looking at the processes of teaching and learning. Several of the papers were presented at the 1966 meeting of the American Educational Research Association in Chicago.

The paper by Harootunian, "The Teacher As Problem Solver: Extra-Class Decision Making," is a valuable organizer for thinking about the role of classroom observation and analysis. Harootunian's thesis is that "the critical intellectual competence in teaching is the process of making decisions."

AERA Monograph Series on Curriculum Evaluation: Classroom Observation Vol. 6. Chicago: Rand McNally and Co., 1970.

Papers included in the AERA Monograph Series are authored by Graham Nuthall, James J. Gallagher, and Barak Rosenshine. The introduction by Robert Stake asks the question, "Does Classroom Observation Belong in an Evaluation Plan?" For the outside evaluator the answer to the question depends on what information he deems important to get, and what information the audience and the educational staff see as important.

For the classroom teacher who is both evaluator and staff in his own classroom, and along with his students, also the principal audience, classroom observations belong in his evaluation plan for some of the reasons that Stake mentions. Most audiences, including the teacher, want to know what happened in the classroom. Even those that have a pretty good idea of what is going on find observation data of interest. Often these data "introduce some additional ways of looking at and conceptualizing what goes on in the classroom." Observation may help determine why there are some outcomes and not others. As researchers find the correlates of achievement, one may wish to observe whether those kinds of actions and behaviors are taking place in the classroom. Whenever teaching is the primary concern, the evaluator will want to study strategies, questions, responses, who is talking, and what they are saying. Interested evaluators will want to know how to gather these data.

Stake's closing comments provide the raison d'etre for classroom observation. "Neither an understanding of what the curriculum has been or what should be tried next time is possible without data on the teaching methods. In some evaluation studies the most valuable data will be those gathered by a classroom observation system."

PERSPECTIVES FOR VIEWING THE PROCESS OF INSTRUCTION

Some of the selections in the previous section stressed the gaining of perspective on teaching as a reason for observing and analyzing classroom behavior. The eight selections annotated in this section suggest some ways to look at the classroom. Hyman's comprehensive study of teaching discusses seven major viewpoints on teaching: cognitive and intellectual behavior, communications, social climate, emotional climate, aesthetics, games, and strategy. A paper by Carl Rogers from the section on emotional climate in Hyman's book is annotated separately. Rogers uses his experience in psychotherapy to present a provocative perspective on the classroom through the use of psychotherapy-education analogy. The section on "Games" from Hyman's book is also treated in a separate annotation. The analysis of classroom instruction from the games perspective can provide models for a broader range of strategies and possibly provide criteria for evaluation of instruction. An article on "The Language of the Classroom," also by Hyman, suggests some implications for supervisors and teachers who look at classroom language from the perspective of Bellack's research on the language of the classroom.

The selections by Jackson and Kohl present a variety of practical perspectives for looking at teaching. Of particular interest is Jackson's distinction between preactive and interactive teaching and Kohl's prescription of a mini-strategy for change. Recent studies of anthropological approaches to education are represented in the articles by Bohannan and Sindell. Both authors suggest ways in which teachers can use the approach of an anthropologist in the field to increase teaching effectiveness.

Hyman, Ronald T., Ed. Teaching: Vantage Points for Study. New York: J. B. Lippincott Company, 1968.

The selections in Teaching focus on the process of teaching rather than on teacher personality traits, teacher effectiveness, or how people learn. They are grouped according to seven major viewpoints on teaching: cognitive and intellectual behavior, communications, social climate, emotional climate, aesthetics, games, and strategy. The articles represent a wide range of approaches to the study of teaching. Some employ an empirical approach, while others present an analytic and/or speculative study of teaching. The selections focus on both verbal and nonverbal behavior in the classroom. Some of the observation systems represented focus primarily on the teacher, with others focusing on the pupils, or both. Hyman's collection breaks new ground in presenting an organized variety of observation instruments that give teachers better perspective on teaching and that encourage them to assess and compare teaching and learning behaviors in the context of the classroom.

Six selections view teaching from the vantage point of communication. Of special interest to the classroom teacher is the list of implications for teaching an information systems approach at the end of George Gerbner's article, "A Theory of Communication and Its Implications for Teaching." Valuable as a basic reference for the study of classroom interaction is a 1961 article by Lewis, Newell, and Withall, which describes the origins and use of a set of observational categories, and operationally defines each of thirteen categories, e.g., Asks for Opinion or Analysis, Seeks or Accepts Direction, Inhibits Communications. Nonverbal communication in

teaching is the subject of the selection by Charles Galloway, who has successfully designed an instrument for categorizing and recording a teacher's nonverbal communication. The seven categories used by Galloway recognize those nonverbal acts which encourage communication, those which inhibit communication, and those which are considered pro forma, neither encouraging nor prohibiting.

The editor has chosen six selections to illustrate the perspective of those who view teaching as a cognitive process. The studies reported define the basic concepts of the cognitive perspective. Gallagher and Aschner are concerned with productive thinking. Smith and his associates discuss logical operations. Maccia writes about actual and hypothetical thinking. Bellack and his associates consider pedagogical, substantive, and instructional meaning. Davis and Insley review knowledge and intellectual skills and abilities. The classroom teacher will find useful the operational definitions of basic, cognitive concepts given in four of these selections. In addition, the systems by Gallagher and Aschner, and Davis and Tinsley can be adapted rather easily for classroom use by teachers who wish to take a closer look at the nature of students' cognitive responses.

The emotional climate and the social climate of the classroom are discussed in two closely related sections. Rogers, Hyman, Withall, and Macdonald and Zaret have authored selections on the emotional climate. The social climate of the classroom is the subject of articles by Jenkins, Getzels and Thelen, Jensen, Flander, Chapline, Hughes, and Perkins. The article by Withall is regarded as a classic. It was the first attempt

to establish a category system for describing classroom discourse from the emotional perspective. Also of interest to classroom teachers will be the category system of Macdonald and Zaret for classifying behavior on an open-closed continuum. The authors make a useful distinction between "productive" and "reproductive" student learning behaviors, and between task-oriented and role expectancy-oriented teaching behaviors. Three of the selections in the section on the social climate--those by Flanders, Hughes, and Perkins--are studies dealing with the concepts of teacher power, the superior-subordinate relationship in the classroom, and teacher-pupil interaction. These three particularly will be of interest to teachers who want to study what goes on in their own classrooms.

The last section in Hyman's book views teaching from the vantage point of strategies. Three studies--by Taba, Oliver and Shaver, and Coombs--deal with the analysis of teacher-pupil verbal behavior according to criteria stated operationally by the authors.

21.

Rogers, Carl R. "Significant Learning: in Therapy and in Education." Educational Leadership. Vol. 16 (January 1959) pp. 232-42. Reprinted in: Hyman, Ronald T. Teaching; Vantage Points for Study. Philadelphia: J.B. Lippincott, 1968.

The author derives an educational philosophy from his experience in psychotherapy. Psychotherapy often leads to significant learning, i.e., learning which affects a person's behavior, attitudes, or personality. Significant learning by the client occurs when the psychotherapist is congruent (personally honest), acceptant of the client, and empathetic. Significant learning is encouraged because the client in psychotherapy is up against a situation he perceives as a serious and meaningful problem.

These four preconditions to significant learning in psychotherapy are, according to the author, also the preconditions to significant learning in education. The teacher should be personally honest with his students; he should be aware of his own feelings, be open to expressing them, but not insist that the students "learn" them. The teacher also needs to be acceptant of the student as he is and to empathize with the feelings of fear, anticipation, and discouragement that the student has as he learns new material. The direction of learning should come from students so that education would focus on topics meaningful to students. The teacher becomes a "resource-finder."

There are several points on which the psychotherapy-education analogy might be challenged. Therapy is usually a voluntary relationship, while schooling is compulsory. Therapy also is usually a one-to-one relationship while group instruction is the most common form of

education. Lastly, the deeply emotional experience of therapy may not be analogous to education which involves subject matter, as well as an emotional tie between teacher and student. However, even if these issues raise some question about the analogy, it is still likely that this article, written in a clear and honest style, will prompt a teacher to reconsider his role and behavior in the classroom.

Hyman, Ronald T. "Games." Teaching: Vantage Points for Study. Section Five. Philadelphia: J.B. Lippincott, 1968.

The language of games has been absorbed in our daily vocabulary. Illustrative statements include: "he punted that one;" "he couldn't get to first base with her;" "that's a political football;" etc. Recently, educators have applied the perspective of games and sports to the analysis of teaching. Such concepts as coach, players, rules, referee, and pawn are used to study teaching.

The author has included five readings in the section on games. The readings are: Philip H. Phenix, "The Play Element in Education;" James B. Macdonald, "Gamesmanship in the Classroom;" Ronald T. Hyman, "The Name of the Game is Teaching;" B. Othanel Smith, "The Game of Thinking;" and Arno A. Bellack and associates, "The Classroom Game." A brief overview by the author compares and contrasts the five readings, and notes several reasons why the completeness of the game analogy to teaching can be questioned.

The utility of the games perspective can be illustrated by discussing the distinctions made in one of the articles and by suggesting ways the distinctions can be used to analyze classroom teaching. Macdonald identifies and discusses six teaching strategies: information-giving game, master game, problem-solving game, discovery or inquiry game, dialogue game, and clarification game. These six games not only can give teachers a way of conceptualizing their teaching performance, but, in addition, they can provide models for developing a broader range of strategies. The author also discusses how the strategy games could be used as criteria for evaluation or for improvement of teaching.

Hyman, Ronald. "The Language of the Classroom: Implications for Supervisors and Teachers." Journal of Secondary Education. Vol. 42 (March 1967) pp. 106-12.

Using Bellack's The Language of the Classroom as a source, the author discusses the implications of several aspects of the research for supervisors and teachers. One type of conceptual framework derived from that research is the four pedagogical moves for classifying classroom discourse. The four moves are structuring (setting the context for subsequent classroom behavior), soliciting (questioning), responding (answers to questions), and reacting (reactions by the teacher to student responses). Illustrative questions are proposed that the teacher or an observer can use to analyze the teacher's behavior in terms of pedagogical moves. Concentrating attention on the four moves can provide a focus for discussions between a teacher and supervisor.

Another perspective for analyzing teaching is a "flow" model of the teaching game. The flow model begins with a no-game state, i.e., no action is occurring. At the directive fork, the teacher or pupil either launches (e.g., let's examine the Bill of Rights today) or excludes (e.g., no, we'll look at that later) a new game or sub-game. Launching can be done by a structuring move (as in the previous example) or by a question (what is the first amendment to the Constitution?). As a speaker launches or excludes, he specifies the game's dimensions including the activity (discussion, debating, etc.), the agent who is to perform the activity, the substantive topic, and the logical operation (defining, explaining, etc). These dimensions define the particular game; they come together on the playing path. Along the

terminating path, the game ends and is stored in the archive. The model enables one to view the discourse of a classroom at any time and to assess what state the classroom is in. Illustrative questions are given for guiding analysis in terms of its flow.

The article also discusses an approach to looking for the rules of the game. In addition to the previously mentioned analyses of the pedagogical aspect of teaching, suggestions are made for analyzing substantive meanings and logical operations of classroom discourse. One of the advantages of this article is that it provides a multi-faceted view of teaching. Analysis can occur from one of the perspectives or from a combination of the frameworks.

26.

Jackson, Philip W. "The Way Teaching Is." In The Way Teaching Is, edited by Curtice Hitchcock. Washington, D.C.: National Education Association, 1966.

Within the short span of 20 pages the author discusses teaching from a variety of perspectives. Among the topics covered are the following: the conception of teaching as a moral enterprise and the effect of this conception on educational research; the nature and differences between preactive and interactive teaching; three modes of instruction, public (group instruction), private (tutorial), and semi-private (tutorial in a classroom); and teachers' interest with student involvement rather than with student learning. The treatment of each topic is brief and often provocative.

Though the paper was designed for a research audience, several of the topics provide conceptualizations of teaching useful to practitioners. One is the distinction between two aspects of teaching. One, called preactive, occurs as a teacher prepares for classroom instruction. Preactive teaching includes such activities as preparing lesson plans, marking papers, rearranging furniture, reflecting on a class discussion, and considering whether to call a parent. Preactive behavior is more or less deliberative, making teaching look like a rational process. In contrast, interactive teaching, activities that occur vis-a-vis the students, is more or less spontaneous. That is, when the teacher is in front of students, he tends to do what he feels or knows is right, rather than what he "thinks" is right.

The distinction between preactive and interactive behavior has several practical implications. Systematic analysis of teaching behavior for the purpose of improvement may be more profitable in the case of preactive teaching than it is in the case of interactive behavior, which is largely unpredicatable. It is interesting to note that most classroom observation instruments focus on interactive teaching. A second use of the distinction would be to use the two main categories, preactive and interactive, and sub-categories of behavior as a basis for designing a preservice or inservice teacher training program. Microteaching, for example, could be interpreted as an attempt to delineate elements of interactive behavior.

Kohl, Herbert R. The Open Classroom: A Practical Guide to a New Way of Teaching. New York: New York Review, 1969.

The practical nature of this book is illustrated by the chapter titles: Beginning the School Year; Planning and Lesson Plans; Some Classrooms in Operation; Ten Minutes a Day; Discipline; Trouble with Principals, Assistant Principals, and Other Supervisors; and Problems. The book is aimed toward those teachers who have decided that they would like to have a more open environment in their classrooms. Although it does not give teachers a step-by-step method for changing their classrooms and themselves, "this handbook does, however, try to anticipate problems, to present possibilities, and to make suggestions. It presents some strategies for change, for dealing with the administration and other teachers, for creating different kinds of textbooks, lesson plans, etc."

An interesting strategy for change is presented in the chapter entitled "Ten Minutes a Day." The author notes the difficulty of changing one's style of classroom teaching, comparing such changes to the alteration of one's personality. It is likely, therefore, that one's belief in a free, non-authoritatian classroom will progress faster than his ability to teach in such a classroom. Rather than attempt a total change in teaching style, the author suggests devoting ten minutes to what students want to do. The teacher may present options, but it should be up to the students to decide what to do, including nothing. Thus, the teacher stops being a director and becomes an adult with young people, a resource who can be consulted by students, and possibly a friend. As the teacher becomes more comfortable in his new

role, he can expand the ten minutes to fifteen, thirty, or more.

Since the book focuses on practical problems, it becomes clear what the author values as an alternative to the conventional classroom. The alternative can be used by a teacher as a basis for re-evaluating the worth of his own style of teaching.

30.

Bohannan, Paul J. "Field Anthropologists and Classroom Teachers." Social Education. Vol. 32 (February 1968) pp. 161-66.

The technique of anthropological field work is viewed as offering considerable insight into some of the problems of classroom teachers. The article gives a brief description of what an anthropologist does in the field, discusses an experimental seminar that the author conducted with teachers, and makes a few concrete suggestions about how a teacher can use field techniques to increase his teaching effectiveness.

The similarity between the tasks of a field anthropologist and those confronting a teacher are greatest when the teacher is working in an ethnic setting that is unfamiliar to him. Anthropologists must learn the language, striving to understand events in terms of the group being studied; teachers must learn to communicate with students, from whom he is culturally and chronologically separated. Both teachers and anthropologists must prepare themselves for cultural shock by becoming acutely aware of their own values and the contrasts between these values and those of the group with which they work.

In order to prevent teachers under the constant threat of cultural strangeness from becoming angry or apathetic, the author suggests a few simple questions, e.g., "why am I discouraged?" or, "why am I hostile?" The answers to these questions often reveal that the teacher does not know where to turn or how to behave. Another set of questions comes naturally, including, "what are these people doing and saying in their terms?" and, "why are they angry and afraid?" These questions can lead to a firm basis for achieving cross-cultural communication.

31.

Sindell, Peter S. "Anthropological Approaches to the Study of Education." Review of Educational Research. Vol 39 (December 1969) pp. 593-605.

In this review of research the author analyzes recent anthropological studies of education and other studies of education that utilize anthropological methods. Three foci of research are identified: schools and their relations with the surrounding socio-cultural milieu, the description and analysis of classroom processes, and the study of individual pupils and educators. Current research in each of these research approaches is discussed; emphasis is given to the work of George Spindler, Louis Smith, Harry Wolcott, Eleanor Leacock, Yehudi Cohen, and Jacquetta Burnett.

Although the review is directed to researchers, the practitioner may benefit from it in several ways. The most obvious way is to discover the contributions that a professional anthropologist believes anthropology can make to the understanding of formal and informal educational processes. It is also possible that several of the new research techniques can be adapted to either preservice or inservice teacher training. For example, Jacquetta Burnett's technique of following an individual student through the series of social contacts he has can be used by beginning teachers to gain insight into the life style and perceptions of a youngster. A third value might be increased teacher awareness, gained from the literature on schools and their socio-cultural milieu, demonstrating the ways in which events occurring in the classroom are influenced by broader social and cultural currents.

32.

THE COMPONENTS OF INSTRUCTION AMENABLE TO ANALYSIS

The selections annotated in this section of the bibliography call attention primarily to aspects of instruction that are analyzable and controllable, e.g., strategies, questioning, objectives, and classroom management. Methods, strategies, and tactics are discussed in terms of definition and amenability to diagnosis in the contributions from Hyman, Strasser, and Fentlon. Mager's well known book, Preparing Instructional Objectives, is viewed in the light of its utility to analysis of classroom instruction. Sanders has effectively translated Bloom's Taxonomy of Educational Objectives: Handbook I Cognitive Domain into a taxonomy of questions useful to the teacher in preparing and analyzing examinations, homework assignments, and oral discussion. The conflict between spontaneity and order and its relationship to classroom control techniques is the subject of the article by Jules Henry.

33.

Hyman, Ronald T. Ways of Teaching. Philadelphia: J.B. Lippincott, 1970.

An introductory chapter develops a concept of teaching that is based on current research and thought concerning the anlysis of teaching. The author next provides an overview of teaching methodology, including criteria for the selection of a method. The main body of the book is composed of chapters on three groups of methods: discussion method (socratic, discovery, values, concepts, and content); recitation and lecture; and role-playing (simulation and sociodrama). Each group of methods is introduced by an essay addressing the question, "what are the arguments for using this way of teaching?" Chapters treating specific methods are included, and each chapter includes examples to demonstrate a method and to serve as a model for appropriate use of a method.

The book concludes with chapters on three general aspects of teaching methodology: questioning, observation, and evaluation. These chapters are based on recent research on classroom instruction. The chapter on questioning proposes several approaches to categorizing questions, and each approach is discussed in terms of its implications for teachers. The chapter on observing and evaluating teaching identifies basic issues and makes suggestions for resolving these problems.

Since the intended audience for the book is practitioners, the author carefully considers the implications for practice of the topics contained in the book. The chapters are so clearly developed that the book could serve as an introduction not only to specific teaching methods, but also to the topics of defining teaching, questioning, observing, and evaluating teaching. The comprehensive bibliography after each chapter provides numerous opportunities to pursue a topic in greater detail.

34.

Strasser, Ben. "A Conceptual Model of Instruction." Journal of Teacher Education. Vol. 18 (Spring 1967) pp. 63-74.

Basing his approach primarily on the research of B. O. Smith, the author attempts to identify patterns shared by all forms of classroom teaching. Basic to his conceptual model is the tactical loop. The loop involves a cycle of teacher behavior: behaving, observing, interpreting, and diagnosing. In terms of previous diagnoses and particular goals, a teacher behaves, i.e., teaches. At the same time he observes the results of his actions and interprets the observations in terms of is goals (i.e., are his actions realizing the goals?). With this information, diagnoses are made and either he continues his present behavior or he engages in a new form of teaching behavior. Thus the cycle of behaving, observing, interpreting, and diagnosing begins again.

Another distinction central to the model is that between a teaching strategy and a teaching tactic. A strategy is a general plan for a lesson, including desired learner behavior in terms of the goals of the lesson and an outline of planned tactics necessary to implement the strategy. A tactic is a teacher behavior that brings the teacher into contact with the students and subject matter. Therefore, teacher behavior, as it occurs in the tactical loop, is concerned with tactics; strategy relates to the planning before class that determines the general direction of teacher behavior. The relationship between tactics, strategies, and the tactical loop is defined in a figure included in the article.

One of the strengths of the article is the author's discussion of the utility of the conceptual model. However, limitations of the model are noted too. Basically these limitations involve ways in which the

model oversimplifies the process of teaching. Next, uses of the model are discussed, and several ways in which the model facilitates analysis of instruction are mentioned. The author feels that the essential implication of the model for the analysis of instruction is that it illustrates the two-way nature of teaching. That is, teacher behavior designed to reach certain goals (teacher influence), and the impact of the observation, interpretation, and diagnosis of student behavior on teacher behavior (influenced teacher behavior).

Fenton, Edwin. "Teaching Strategies." The New Social Studies. Chapter III. New York: Holt, Rinehart, and Winston, 1967.

Although the first section of the chapter and all of the examples concern social studies, the chapter as a whole discusses teaching strategies useful to all teachers. Section II describes a continuum of teaching strategies, from exposition (all higher level thinking done by the teacher) to discovery (all higher level thinking done by students) with directed discussion in between. The next section focuses on guidelines to help the teacher select an appropriate strategy. The nature of the objective(s) and the conceptual ability of students should govern the choice of strategy.

Two facets of the discussion of teaching strategies should be of interest to practitioners. The author's continuum of teaching strategies is relatively simple yet somewhat more precise than the normal distinction between lecture and discussion. The continuum can be used to classify varying strategies. Secondly, the author's contention that strategies must be justified on the basis of objectives and student abilities calls to question the common practice of treating strategies as if they were good in and of themselves. The author not only gives reasons for not believing that any single strategy is inherently better than all others, but in addition, he gives examples of how to choose an appropriate strategy for particular circumstances.

37.

Mager, Robert F. Preparing Instructional Objectives. Palo Alto: Fearon, 1962.

Although this book was written in the early 1960's, it is still one of the best known approaches to preparing behavioral objectives. "A statement of an objective," the author states, "is useful to the extent that it specifies what the learner must be able to DO or PERFORM when he is demonstrating his mastery of the objective." A useful objective, therefore, not only identifies an end point, but also specifies the kind of performance that will be accepted as evidence that the student has reached the end point.

In recent years few educational ideas have aroused more controversy than behavioral objectives. The desirability, as well as the feasibility of behavioral objectives have been attacked. Commenting on the controversy is beyond the scope of this annotation, but it is appropriate to note the utility of behavioral objectives to the analysis of classroom instruction. By providing a statement of minimum performance, a behavioral objective establishes a criterion against which classroom interaction can be measured. That is, what evidence from the class is there that the performance specified in the objective was reached? Using this question provides a meaningul focus for a discussion of classroom interaction.

Sanders, Norris M. Classroom Questions; What Kinds. New York: Harper and Row, 1966.

Using Benjamin Bloom's Taxonomy of Educational Objectives; Handbook I Cognitive Domain as the basis, the author developed a taxonomy of questions. In chapters on the separate categories -- memory, translation, interpretation, application, analysis, synthesis, evaluation -- each type of question is defined and discussed, and examples are given. The last chapter handles a variety of topics involved in planning for and writing questions.

The taxonomy has a variety of uses for the classroom teacher. By applying it to the questions he gives on an examination, in homework, and orally, the teacher can discover whether he is asking a variety of questions or whether he is asking his students to do the types of thinking he feels are important. The taxonomy is also useful in discovering the levels of thinking incorporated in published materials and in planning locally created curriculum materials.

In many cases it is difficult to classify questions within one category. Not only are several of the categories difficult to distinguish from one another, but in addition, classification is affected by prior experiences of students. At times, therefore, it may be desirable to collapse several categories into one. One might, for example, use only two categories: memory and all levels of thinking higher than memory. With fewer categories it should be possible to increase the reliability of classification, yet still be able to make distinctions among questions.

Henry, Jules. "Spontaneity, Initiative, and Creativity in Suburban Classrooms." From Education and Culture, edited by George D. Spindler. New York: Holt, Rinehart, and Winston, 1963.

Direct observation of classrooms and teacher interviews were used to study the ways in which three elementary teachers "disciplined" their classes. The author believes that impulse is the root of life, and its release in proper amounts, under proper conditions is a central concern of culture. Controlling the release of impulse is a particularly difficult problem for contemporary suburban teachers because they are expected both to foster initiative and spontaneity, and at the same time to maintain order and to teach prescribed materials. Emphasis on initiative and spontaneity often leads to a permissive atmosphere, which in some rooms borders on chaos. The focus of the article is on the ways that the three teachers handled the conflict between spontaneity and order.

Teachers in the sample frequently used affection to control undesirable behavior aroused by the permissive atmosphere. Women teachers stimulated students' love by calling them "honey" and "dear," and by touching them; at the same time they threatened to withdraw love if the students seemed to get out of hand. The male teacher also used affection, but in addition, he tended to reduce the social distance between the kids and himself by becoming a contemporary American "buddy-buddy." Though somewhat effective, the control techniques employed by the three teachers could not prevent teacher fatigue and continual classroom noise. In one case the class assumed the responsibility for order by shushing when the teacher did nothing.

This article's primary value to teachers is not to resolve the spontaneity-order dilemna so much as it is to illustrate three characteristic ways of coping with the dilemma.

CLASSROOM OBSERVATION SYSTEMS

Part I

This section contains some general background papers and reviews of observation systems, as well as brief annotations on several instruments designed to gather data on specific cognitive and affective behaviors of teachers and students. The Bellack paper provides the background for understanding the construction of an observation system, and it describes three illustrative systems. Rosenshine describes a number of instruments and makes a useful distinction between category and rating systems. The background and theory of interaction analysis is treated in the selection from Amidon and Hough. Specific systems are described in some detail in the work of Amidon and Hunter, Gallagher, and Nuthall.

In the second part of this section the outstanding anthology of classroom observation instruments, Mirrors for Behavior, edited by Simon and Boyer, is annotated. Several instruments that focus on cognitive and affective behaviors in the classroom have been selected from Mirrors to illustrate how instruments designed for research might be modified and simplified by the practitioner for use in the classroom.

41.

Bellack, Arno A. "Methods for Observing Classroom Behavior of Teachers and Students." Paper presented to the conference on "Methods of Determining Criteria for Evaluation of Comprehensive Schools." Sponsored by Padagogisches Zentrum. New York: Teachers College, Columbia University, November, 1968. (Mimeo.) ERIC ED 040 113.

Professor Bellack's paper is a discussion of recent developments in methods for observing classroom behavior. Bellack first analyzes the task of constructing an observation system; second, he describes three exemplary systems; and third, he explores some issues and problems in the development and use of observation systems.

The classroom teacher will be aided in the selection of instruments for observing classroom behavior by the first section of the paper. There Bellack raises the two questions basic to the construction of a system. What dimensions of classroom behavior are to be observed, and how are the observations to be carried out? He shows how these questions are closely interrelated in system construction. What the researcher decides to study determines the nature of the instrument he constructs. The teacher can make a more appropriate choice of a system for observing his classroom if he knows the purpose for which the instrument was constructed in the first place. Bellack defines the basic components of observation systems and gives examples of different treatments of those components in existing instruments and literature. The differences he sees among existing observation systems are in: (1) dimensions of classroom behavior to be classified, (2) type of observational schedule devised, (3) observer's frame of reference for coding, (4) unit of behavior to be used in coding, and (5) range of applicability.

Classroom teachers can gain some quick insight into the problems of recording and coding behavior from the first section of Bellack's paper.

He briefly describes and compares specimen recording, audio recording, and audio-visual recordings. His own preference is for the last.

Bellack has chosen to present in his paper three illustrative observation systems: Flanders System of Interaction Analysis, an affective system dealing with the social climate of the classroom; Bellack, et. al.'s system for analyzing the language of the classroom, concerned primarily with the cognitive dimensions of teaching; and Oliver and Shaver's system for describing teaching styles in social studies classrooms that focuses on both affective and cognitive dimensions. These three short descriptions (about 1000 words each) illustrate very well the intricacies of conceptualization and construction of observation systems. Classroom teachers can use these descriptions simply as provocations to think about classroom behavior. They might also select certain categories of analysis of one of the systems to study more closely in their own classrooms before considering the application of the entire observation system.

Bellack's paper closes with a discussion of two problems that face educators in developing and using observation systems: (1) the relationship between observation systems, and (2) the potential uses of observation systems. It is the discussion of the latter that will appeal to classroom teachers for Bellack here sets out the rationale for using classroom observation systems in teacher training and in supervision of teachers. He views observation instruments as conceptual tools that enable teachers to analyze the teaching process and "thus to deepen their understanding of the teacher's professional role."

Rosenshine, Barak. "Evaluation of Classroom Instruction." Review of Educational Research. Vol. 40, No. 2 (April 1970).

In the review of evaluation of instruction Rosenshine takes the position that data on classroom transactions are fundamental to the evaluator who would recommend modification of an instructional program. He points to the need for: (1) "greater specification of the teaching strategies to be used with instructional materials, (2) improved observational instruments that attend to the context of the interactions and describe classroom interactions in more appropriate units than frequency counts, and (3) more research into the relationship between classroom events and student outcome measures."

Rosenshine describes a number of instruments for the observation of classroom instruction and suggests the following uses of these instruments: assessing variability in classroom behavior, assessing whether the teacher's performance agrees with specified criteria, describing classroom interaction, and determining relationships between observed classroom behavior and outcome measures.

A useful distinction is made by Rosenshine between instruments based on category systems and rating systems for observations. Category systems require low-inference because they focus on "specific, denotable, relatively objective behaviors" and because the behaviors are recorded as frequency counts. Rating systems lack such specificity and are classified as high-inference measures. The advantages of the category system are its objectivity and specificity. The disadvantages are the difficulty of specifying behaviors to be included in the system and the cost of using trained observers.

Rating systems are more flexible, but suffer from lack of common referents for scoring and difficulty in the translation of items into specific behaviors.

Rosenshine gives types and examples of both observational category and rating systems and a general description of each system. Among those described are category systems developed by Flanders, Davis and Tinsley, Zahorik, Gallagher, and Denny. Rating systems cited are those used with the Harvard Project Physics and the School Mathematics Study Group materials.

In the final section of the review Rosenshine addresses the problem of selecting and using observational instruments for the evaluation f instruction. He suggests some guidelines and considerations for dealing with performance criteria, cost, relevance, supplemental sources of observation, and treatment of data.

Amidon, Edmund J. and Hough, John B. (eds.). Interaction Analysis: Theory, Research and Applications. Chapter 1. Reading, Mass.: Addison-Wesley, 1967.

The book is a collection of 30 papers organized under three main chapters. The paper in chapter one, "Background and Theory," contains six articles authored by researchers who have made a major contribution to the study of interaction analysis. They share a common point of view, that the concept of social-emotional climate has its effect on human behavior. The paper by H. H. Anderson is a study in which the integrative and dominative behavior of teachers in their contacts with children is assessed. Lewin, Lippitt, and White deal with autocratic-democratic leader behavior and its effects on children's groups. One of the first attempts to measure classroom climate by means of a category system is presented in a study by John Withall. The results of his study, designed to test his classroom climate index, is the subject of the third article. The fourth article, by Morris Cogan, describes his work in analyzing perceptions that students had of their teachers. It was Cogan's work that helped provide Flanders with the theoretical basis for conceptualizing the relationship between teacher influence and the behavior and attitudes of pupils. The research of Robert Bales and Fred Strodtbeck on interaction process analysis (IPA) is the subject of the fifth article. In the final paper of the chapter Ned Flanders summarizes the points of view expressed in the chapter and relates them to his own category system developed for assessing the social-emotional climate of the classroom. These six background papers exemplify the kind of theoretical base from which observation and analysis systems are developed. In this particular case the papers provide theoretical principles underlying the development by Ned Flanders of his system of observation and analysis.

Of particular interest to classroom teachers, especially those who have a feeling for their class as a social group, is the article entitled, "Patterns of Aggressive Behavior: An Experimentally Recreated Social Climate," by Lewin, Lippitt, and White. This classic study, which was first published in 1939, aimed to answer such questions as "what underlies differing patterns of group behavior; how many differences in subgroup culture, group stratification, and potency of ego-centered and group-centered goals can be utilized as criteria for predicting the social resultants of different group atmospheres; and is not democratic group life more pleasant, but authoritarianism more efficient?" Four variables were found which seemed to effect spontaneous aggression. They were tension, the space of free movement, rigidity of group structure, and the style of living. The paper is an important resource for classroom teachers because it makes explicit some possible correlations between leader behavior and group response.

Amidon, Edmond, and Hunter, Elizabeth. Improving Teaching; the Analysis of Classroom Verbal Interaction. New York: Holt, Rinehart and Winston, 1966.

Two introductory chapters define teaching and present a Verbal Interaction Category System (VICS) based on the Flanders system of Interaction Analysis. The categories in the VICS, a total of 12, are used to analyze the talk in the classroom situations presented in the book. These situations are organized around seven intents that teachers have in classroom interaction: motivating, planning, informing, leading discussion, disciplining, counseling, and evaluating. Each intent is handled in a separate chapter; the bulk of a chapter is case studies and the anlysis of these examples with the VICS.

This book has considerable practical appeal. Not only are the topics ones in which teachers are interested, but in addition, the use of case studies illustrates specifically how the category system can be applied to these topics. VICS also is relatively simple so that it is easy to learn. It has five main categories: teacher-initiated talk, teacher response, pupil response, pupil-initiated talk, and other, with a small number of sub-categories under each main category.

A considerable amount of time may be required to prepare a matrix, but it is possible to use the category system without recording behavior every three seconds and constructing a matrix. An observer could analyze behavior by looking for only one or two of the categories of behavior; for example, how many times in an hour does a teacher accept ideas (category one). Another approach would be for an observer to focus on the kinds of teacher behavior associated with a particular activity;

what types of teacher-initiated talk or response, for instance, are used when discipline problems arise. If, however, the teacher wants to concentrate on the sequence or pattern of verbal behavior in the classroom, he would need to create a matrix.

Gallagher, James J. "A 'Topic Classification System' for Classroom Observation." AERA Monograph Series on Curriculum Evaluation. Vol. 6. Chicago: Rand McNalley and Co., 1970.

"Is teaching an art?" Gallagher answers his own question affirmatively. To say teaching is an art means that there are only a very few persons who have the skills that will identify them as highly effective practitioners, and even these artists cannot give a systematic account of how they practice their art. Gallagher points to the need for systematic study of the art of effective teaching and discusses the difficulty of isolating any single treatment variable. It is only through analysis of complex interacting behavior patterns that we may learn something of the nature of teacher effectiveness.

As a prelude to presenting his new Topic Classification System (TCS), Gallagher reviews the previously developed Gallagher-Aschner classification system, which was developed from the Structure of the Intellect model of Guilford. In that system there are five primary categories: cognitive memory, convergent thinking, divergent thinking, evaluative thinking, and routine. Cognitive-memory operations represent the simple reproduction of facts, formulae, or other items of remembered content through use of such processes as recognition, rote memory, and selective recall. Convergent thinking represents the analysis and integration of given or remembered data. It leads to one expected end result or answer because of the tightly structured framework through which the individual must respond. Divergent thinking represents intellectual operations in which the individual is free to generate independently his own data within a data-poor situation or to take a new direction or perspective on a given topic. Evaluative thinking deals with matters of judgment, value, and choice, and is characterized

by its judgmental quality. The final category, routine, contains a large number of miscellaneous classroom activities. The classification system used in the Gallagher-Aschner study was a useful first step, but Gallagher felt that additional development in terms of larger units of measurement was needed to provide a satisfactory account of classroom strategy and interaction. The Topic Classification System indicates: the level of conceptualization, the style of thinking, and the instructional intent, which refers to content and skills; the level of conceptualization to data, concept, and generalization; and the level of style to description, expansion, explanation, evaluation-justification, evaluation-matching, and activity other than discussion. In this system the term topic is used to delineate the unit of analysis. It is a unit upon which the focus of classroom discussion centers a given action, concept, or principle. A topic must consist of at least fifteen typewritten lines of script.

The larger part of Gallagher's paper is given over to instructions and examples for coding discussions according to the TCS.

Nuthall, Graham A. "A Review of Some Selected Recent Studies of Classroom Interaction and Teaching Behavior." AERA Monograph Service on Curriculum Evaluation. Vol. 6. Chicago: Rand McNalley and Co., 1970.

Nuthall has chosen to review those studies of teacher behavior and teacher-pupil interaction that are representative of what he perceives to be a new direction in interaction research: the establishment of the relationships between teacher behaviors and pupil learning or achievement. Nuthall first describes the changes that are being made in the original Flanders Interaction Analysis Technique to improve its precision and to broaden its scope with the addition of cognitive categories. The work of Amidon is noted briefly, and the Multidimensional Analysis of Classroom Interaction (MACI) developed by Honigman is described. Honigman's "three-dimensional" system of categories adds a cognitive-substantive and a procedural dimension to the affective dimension originally developed by Flanders.

Two relatively new systems, based on naturally occurring units rather than on time-intervals used by Amidon, Flanders, and Honigman, are reported. The procedure developed by Macdonald and Zaret attempts to relate the concept of "openness" in human transactions to classroom interaction. They hypothesized that those teachers who were more open at critical shift points in class discussion would produce a greater proportion of productive responses from pupils. In eight of nine classes studied using their instrument, the hypothesis was confirmed. Contrasted with the system developed by Macdonald and Zaret is the multi-aspect, single record system of Biddle and Adams, which is based on the distinction between the structural and functional aspects of classroom activities. The structural aspect includes the positioning and roles of the participants, and the functional

aspect includes the nature of the content of the interaction and the manner in which the content is handled. The resulting system includes as many different aspects of classroom behavior as possible and is "infinitely expandable."

Nuthall notes the fears expressed by some writers of the chaos and bewilderment that comes with the proliferation of different observation systems, but he expresses the hope of others that only in this way may classroom behavior get the attention it deserves. Some work has been done on relating different systems, and other studies have made parallel use of two separate systems. Nuthall describes some of the results of studies dealing with the nature of teaching behavior and classroom interaction. Classroom teachers will be interested in the findings on the sequencing of subject matter, teacher variation with the same curriculum, the effects of teachers' verbal feedback, and the relationship of pupil achievement to measures of the affective climate of classrooms.

Nuthall deduces three themes running through the conclusions reported by researchers concerned with the verbal behavior of teachers as the significant "cause" of pupil achievement. In a classroom reasonably free from hostility and criticism, a teacher's effectiveness in influencing pupil growth will depend on such things as:

1. his ability to prepare or "structure" the verbal context within which the interaction between teacher and pupil takes place;
2. his ability, when he is presenting material, to organize and sequence ideas, with a maximum of logical coherence, and a minimum of vagueness and general lack of direction;

3. and his ability, when engaging the pupils in discussion, to stimulate participation and involve the pupils in the development and extension of ideas.

CLASSROOM OBSERVATION SYSTEMS

Part II

This section summarizes instruments that are amenable to modification by the classroom teacher for use in observing and analyzing interaction and outcomes on the cognitive and affective dimensions. The instruments described are all included in the anthology of observation instruments, Mirrors for Behavior, edited by Anita Simon and Gil Boyer and published by Research for Better Schools, Inc., Philidelphia, Pennsylvania, 1970.

The emphasis in these annotations is on the observable behaviors manifested by teachers and students that provide data on cognitive and affective interaction and outcomes through application of the instrument described. The selection of instruments and items within the instruments has been made on the basis of suitability for use in the classroom by the teacher himself, a teaching colleague, student teacher, or student.

The systems are titled as they appear in Mirrors for Behavior and reference is given to the number of the system in the summary volume of Mirrors and to the volume in which the system is fully described.

Simon, Anita and Boyer, E. Gil (eds). Mirrors for Behavior: An Anthology of Classroom Observation Instruments. Philadelphia: Research for Better Schools, Inc., 1970.

The 15 volumes in Mirrors for Behavior contain 79 observation systems that have been used in a wide variety of interactive settings: classrooms, business or faculty meetings, administrative-subordinate interactions, individual and group therapy sessions, interviews, and even family discussions. The 79 systems have been divided into seven major categories: 1) affective, 2) cognitive, 3) psychomotor or location, 4) activity, 5) content (word process, procedures, routine, control), 6) sociological structure (roles, who to whom, etc.), and 7) physical environment. The Mirrors for Behavior "Overview," presented in the summary volume, elaborates on all of these categories, defining the seven classifications and giving examples of instruments from the collection that focus on the particular category. In the summary volume the authors also discuss a new application of observation instruments as content for emerging education. This particular section is quite useful for classroom teachers because it describes the transformation of research instruments into training instruments and suggests some of the modifications that already have been made. The authors discuss the possibility of the use of observation instruments as a testing tool or feedback device both for teachers and students.

The summary volume also contains abstracts of the 79 observation instruments included in Mirrors for Behavior. These short abstracts serve to introduce classroom teachers to the wide variety of observation instruments now available and give sufficient information to enable teachers to look more closely at whatever instrument seems particularly

appropriate for a specific problem. The instruments contained in the volumes are fully reported with theoretical background, the coding system itself, examples of transcripts of situations from which to work, data on statistical reliability, and reports of use of the instrument where available. In addition to the short abstracts of instruments contained in the beginning of the summary volume, there are also brief descriptions of the instruments contained in that volume. The following annotations are of some of the more readily useful systems.

THE JOYCE SYSTEM

Summary 11, Vol. III, Mirrors.

The Joyce System developed by Bruce R. Joyce, Teachers College, Columbia University, may be used in the classroom for any subject matter area. It focuses on the teacher only and can be used live with no special equipment necessry. It requires only one person for coding, and it includes a category of verbal communication identified as Sanctions. These are teacher comments which have a rewarding or punishing effect on the child. Four of the five subcategories of Sanctions refer to the type of student behavior that is rewarded or punished. They are: 1) search or exploratory behavior; 2) inter-personal or group process; 3) attainment of a concept or skill; and 4) following directions or rules. The fifth subcategory refers to generally supportive or generally punishing remarks made by the teacher. The sanction behavior is coded as "+" or "-" depending on the inferred effect on the pupil. For example, +S-3 refers to a statement praising a child for correctly solving a problem or showing understanding of a concept; -S-1 indicates a communication reprimanding exploratory behavior by the pupil.

Teachers can use the Joyce System to study and categorize verbal communications without recording the occurrences of each type. They may find sections, like that on Sanctions, valuable for getting feedback on affective interaction.

THE GALLOWAY SYSTEM

Summary 44, Vol. IX, Mirrors

The system devised by Charles Galloway at Ohio State University focuses on the nonverbal behavior of the teacher. Observation, requiring no special equipment, may be made by one person in a live situation. The system was designed to be used with the categories, time intervals, and ground rules of the original Flanders system. Classroom teachers interested in the nonverbal messages they and their students communicate will find the nonverbal categories illuminating in themselves. There are nine nonverbal dimensions. The Congruent-incongruent dimension, for example, describes the correlation between the voice, gestures, and actions of the teacher and the verbal content of his communication. The Responsive-unresponsive differential refers to modifications in the teacher's behavior as a result of reactions and responses of the pupils. The category Preceptive-inattentive describes whether a teacher is maintaining eye contact with a pupil and presumably listening to him. In order to find out more precisely the kind of affective climate one helps create in the clasroom, a teacher might ask a student to record the nonverbal behaviors that accompany verbal encouragement, using student ideas, asking questions, giving directions, or following student responses.

THE KOWATRUKUL SYSTEM

Summary 52, Vol X, Mirrors.

The system developed by Surang Kowatrakul, Temple University, can be used in any subject area, and the information can be gathered "live" by one person only. Observation focuses on the student. The behavior categories of the system can provide data to describe the degree and kind of affective behavior exhibited by students in the classroom. The categories are operationally defined and include: Intent on Ongoing Work, Social Work Oriented, Social-Friendly, Momentary Withdrawal, Intent on Work in Another Academic Area, and Intent on Work in Nonacademic Area. Other categories in the system are generally descriptive of classroom activities and subject area involved.

Observations Systems Focusing on Cognitive Dimensions

Teachers want to know whether their students are simply recalling data, organizing data, inferring, generalizing, or evaluating. They are also interested in the teacher questions and comments that bring students to different levels of thought. There are many systems that allow an observer to gather data on the cognitive dimension. Those reported below all contain categories on which data can feasibly be obtained by one observer in a live situation.

THE MEDLEY SYSTEM (OBSERVATION SCHEDULE AND RECORD, OScAR 4V)

Summary 13, Vol. III, Mirrors.

The Observation Schedule and Record (OScAR 4V), developed by Donald Medley, Educational Testing Service, Princeton, New Jersey, is suitable for any subject matter and focuses on both teacher and pupil. In the general category interchange, which is defined as an episode in which a pupil says something to the teacher and the teacher reacts, four entries are defined into substantive exchanges, one pupil initiated and the other three teacher initiated--specified as elaborating, divergent, or convergent. A teacher might use this category to establish one half of the pattern that will indicate how a teacher's verbal behavior in substantive exchanges affects a pupil's level of thought.

THE ASCHNER-GALLAGHER SYSTEM

Summary 3, Vol. II, Mirrors.

The Aschner-Gallagher System developed by Mary Jane Aschner, Glenview, Illinois, and James J. Gallagher, Office of Education, Washington, D.C., focuses on both teacher and pupil and can be used with any subject matter. Although designed for use with video and/or audio tape by teams of observers, there are sections of the system that can provide useful data from live observations of one person. The sections on Cognitive-memory Operations, Convergent Thinking, Evaluative Thinking, and Divergent Thinking give definitions of the characteristics subsumed under each category that would enable an observer to classify verbal, written, and oral expressions of students. These sections might profitably be used with systems like the OScAR 4V, described above, to get a better understanding of the relationships between teachers' and students' cognitive processes.

THE SMITH SYSTEM (Strategies)

Summary 20, Vol. IV, Mirrors.

The Smith System on the Strategies of Teaching, developed by B. Othanel Smith at the University of Illinois, is a complex system developed for research, requiring video and/or audio tape and teams of observers. The interest and value for the classroom teacher is in the scholarly analysis of the cognitive venture and the precise definitions of the levels of cognitive processes. Acquaintance with the system will be helpful in analyzing the cognitive processes and logical styles with which teachers and students deal with subject matter.

THE OPENSHAW-CYPHERT SYSTEM (TAXONOMY OF TEACHER BEHAVIOR)

Summary 17, Vol. III, Mirrors.

The Taxonomy of Teacher Behavior, developed by M. Karl Openshaw and Frederick R. Cyphert at Ohio State University, focuses on the teacher and can be used for any subject matter. Four dimensions are used to categorize verbal encounters: Source, Direction, Sign, and Function. Under the Function Dimension is a category which focuses on the development of verbal behavior within an established structure. The definitions and examples given to illustrate this category can be useful to the classroom teacher who wishes to begin identifying the elaborating and extending remarks that he makes in the classroom and to determine what percentage of his remarks fall in this category.

FEEDBACK FROM OBSERVATION AND ANALYSIS

In the preceding sections the reader has been introduced to literature that gives a rationale for observing and analyzing classroom behavior, that suggests the many perspectives from which classroom behavior can be observed, that delineates some of the major components that may be the focus of observation, and that describes general and specific observation systems that are of practical use to the teacher. A final step in improving teaching through analysis of instruction involves working with the feedback from observation. This article by Hill describes a practical process for changing classroom behavior in terms of proposed improvement, trial behavior, and self-evaluation of the feedback. Allen and Ryan describe the use of microteaching in the sequence of teaching, analyzing, reteaching on the basis of feedback, and analyzing until a particular teaching skill is mastered. Microteaching is an important element in the Minicourses developed at the Far West Laboratory to train teachers in specific classroom skills. The Minicourse, described in Borg's new book, shows a teacher what to do, provides feedback on his practice, and gives further opportunity to increase the skill defined.

Hill, William M. "I-B-F Supervision: A Technique for Changing Teacher-Behavior." Clearing House Vol. 43 (November 1968) pp. 180-183.

The author presents a practical process by which a teacher, by himself or in conjunction with a second person, can change his classroom behavior. The initials I-B-F stand for image, behavior and feedback, the key elements of the process. A teacher identifies an element of his instruction that he wants to change, describes a mental picture (image) of the proposed improvement, states the actions (behavior) he plans to take to realize his proposed improvement, and describes the means by which he expects to measure his success (feedback).

A great variety of topics could be subjects of improvement: a particular teaching skill; a learning goal, either cognitive or affective; an aspect of classroom atmosphere; or some element of the teacher's planning activity. The image is to be expressed in behavioral terms to facilitate measurement of success, and written statements of behavior and feedback are used.

The I-B-F approach forces a teacher to be analytical about his own behavior because he must select out some aspect of it to be improved. The approach does not provide ideas that will help him analyze his teaching behavior; ideas for conceptualizing teaching must come from the teacher's background or from the literature on the teaching process. The I-B-F approach, however, does provide a framework for systematically bringing conceptualizations of teaching to bear on the practical problem of improving instruction.

Allen, Dwight, and Ryan, Kevin. Microteaching. Reading, Mass. Addison-Wesley, 1969.

This book is the first extended treatment of microteaching. Microteaching entails a basic sequence of teaching, analyzing, reteaching, and reanalyzing, and focuses on the mastery of a particular teaching skill. A teacher practices a skill, for example, asking a probing question, as he works with a small group of students for five or ten minutes. The results are analyzed using a video tape recorder, student reactions, or a supervisor's notes. The teaching-analyzing sequence is repeated, using a new group of students. Microteaching seeks to improve teaching by repetition (the sequence) and by simplification (specifying separate skills and lessening such complexities as class size, time, scope of content).

The most frequent application of microteaching is to teaching skills; the book refers to such general teaching skills as stimulus variation, set induction, closure, silence and nonverbal cues, reinforcement, and higher-order questions. By breaking down the teaching-learning act into its component teaching skills, it becomes possible to develop a set of concepts to describe with precision the activities of a teacher in front of a group of students. Microteaching, therefore, encourages the development of a vocabulary useful in the analysis of teaching.

The majority of the book is concerned with applications of microteaching to training problems. There is a lengthy discussion of the issues that need to be considered when setting up a microteaching

clinic for preservice teachers. The potential interrelationships of a microteaching clinic to a preservice training program are also discussed. Other applications of microteaching described in the book include: inservice in any school district, inner-city settings, college teaching, and the Peace Corps. Specific examples are included for the various applications of microteaching. Inservice uses of microteaching can include new instructional materials and techniques, as well as general teaching skills.

The book concludes with excerpts from Teaching Skills for Elementary and Secondary School Teachers, a program composed of short films and instruction manuals. The purpose of the program is to facilitate observation and practice of techniques demonstrated by master teachers.

Borg, Walter R.; Kelly, Marjorie L.; Lauger, Philip; and Gall, Meredith. The Mini Course: A Micro-teaching Approach to Teacher Education. Beverly Hills, Cal.: Macmillan Educational Services, Inc., 1970.

Walter Borg, Director of the Teacher Education Program of the Far West Laboratory, and his staff present the Minicourse Instruction Model as a new and effective approach to teacher education. Minicourses are short, self-instructional courses designed to train teachers in specific classroom skills. They are based on the assumptions that the developments of specific skills require that learners must have a very precise definitions, including a visual example, of the specific skill to be mastered; that the learner must have an opportunity to practice the skill; and that the learner must receive feedback on his practice. The minicourses show a teacher what to do, then provide a chance to do it.

Microteaching is an important element in the minicourse instructional sequence. The video tape of the microteaching provides the feedback that indicates the level of attainment of the modeled skill.

The book describes the Teacher Education Program at Far West; the development of "Minicourse 1: Effective Questioning - Elementary Level"; the second generation of minicourses; the third generation of minicourses; ideas for a system of education; and educational change.

Of special relevance to observation and analysis is the focus of the minicourses on a specifically defined skill, such as "using higher order questions," "recognizing and obtaining attending behavior," or "providing feedback," which are manifested in observable behavior.

Two minicourses described in the book are concerned specifically with interaction strategies. Minicourse 4, which was operationally tested in 1970, was developed to train teachers to categorize their own classroom interaction reliably, using Flanders' system for Interaction Analysis. Minicourse 12, which is in the preliminary stages of development, will be used to train teachers "to make systematic changes in their classrooms, based on interaction analysis data."

Borg's last chapter on the role of research and development (R&D) in educational change points out that, in most cases, neither educational research nor local innovation has led to significant national changes in education, for neither give programs or products that can be easily implemented. Educational research and development, in Borg's view, bridges the gap between the researcher and practitioner and creates "a thoroughly tested and validated educational product."

The essential characteristics of R&D are: "(1) the stating of specific performance objectives for the new product; (2) the use of available research knowledge as a source of concepts and materials to be incorporated in the new product; (3) the carrying out of rigorous evaluation research to determine the product's effectiveness in the setting where it eventually will be used; and (4) the use of the results of this evaluation to improve the product. The evaluation-revision cycle is repeated until the product meets its performance objectives."

SUGGESTED ADDITIONAL SOURCES RELATED TO CLASSROOM OBSERVATION AND ANALYSIS

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